

Amendments to the Specification are as follows:

Please amend the paragraph beginning on page 6, line 20 and ending on page 7, line 4 as follows:

The magnetic detecting element shown in Fig. 65 comprises the pinned magnetic layer 2 having a three-layer structure including two magnetic layers 12 and 14, and a nonmagnetic layer 13 interposed therebetween. In Patent Document 2, the pinned magnetic layer 2 is referred to as an "automatically pinned layer". As shown in Fig. 65, the antiferromagnetic layer 1 for pinning the magnetization of the pinned magnetic layer 2 is not provided. Patent Document 2 discloses that the ~~two~~two magnetic layers 12 and 14 constituting the pinned magnetic layer 2 are magnetized in opposite directions and automatically pinned, and the magnetizations of the magnetic layers 12 and 14 are not rotated even when an external applied magnetic field enters.

Please amend the paragraph beginning on page 7, line 21 and ending on page 8, line 5 as follows:

The magnetic detecting element disclosed in Japanese Unexamined Patent Application Publication No. 8-7235 (referred to as "Patent Document 3" hereinafter) comprises a buffer layer ~~62~~ serving as an underlying layer and made of tantalum (Ta), and a pinned ferromagnetic layer ~~70~~ laminated thereon. The pinned ferromagnetic layer ~~70~~ comprises a first cobalt (Co) film ~~72~~ and a second cobalt (Co) film ~~74~~ which are laminated with a ruthenium (Ru) film ~~73~~ provided therebetween. The magnetization of each of the first and second cobalt (Co) films ~~72 and 74~~ is pinned by an anisotropic magnetic field. The first and second cobalt (Co) films ~~72 and 74~~ are antiferromagnetically coupled with each other and magnetized in antiparallel directions.

Please amend the paragraph on page 8, lines 6-13 as follows:

However, it was found that in the structure of the magnetic detecting element disclosed in Patent Document 3 in which the Co films are laminated on the buffer layer made of tantalum, the magnetization direction of the pinned ferromagnetic layer ~~70~~ cannot be appropriately pinned. This is also

suggested in Japanese Unexamined Patent Application Publication No. 2000-113418 (referred to as "Patent Document 4" hereinafter).

Please amend the paragraph beginning on page 47, line 12 and ending on page 48, line 10 as follows:

Furthermore, since the first antiferromagnetic layer 30 is not provided on the central portion 29b of the first magnetic layer 29, magnetic electrostatic damage (soft ESD) little occurs in the central portion of the pinned magnetic layer 26. The first antiferromagnetic layer is conventionally provided over the entire region of a pinned magnetic layer, and thus an exchange coupling magnetic field is weakened by the generation of heat at a temperature ~~hither~~higher than the blocking temperature of the first antiferromagnetic layer to break the pinned magnetization state of the pinned magnetic layer, thereby deteriorating reproducing characteristics. However, when the first antiferromagnetic layer 30 is not provided on the central portion 29b of the first magnetic layer 29, as shown in Fig. 1, a temperature relationship between the blocking temperature of the first antiferromagnetic layer 30 and heat generation in the central portion of the pinned magnetic layer 26 need not be taken into consideration, and the occurrence of electrostatic damage can be prevented. Also, the electrodes layers 33 having low resistance are superposed on the first antiferromagnetic layer 30 in both side portions of the element to extend in the element height direction (the Y direction), and thus the current densities in both side portions are significantly lower than that in the central portion. Thus, little Joule's heat occurs in both side portions, and little electrostatic damage occurs in both side portions.

Please amend the paragraph on page 73, lines 5-11 as follows:

The reason why the ~~MetNet~~ Mst is set to be a plus value, i.e., why the magnetic moment per unit area of the free magnetic layer is set to be larger than the magnetic moment per unit area of the ferromagnetic layers, is to improve the stability of a reproduction waveform, and facilitate the magnetic field annealing step for controlling the magnetization direction of the free magnetic layer 24.

Please amend the paragraph on page 76, lines 12-20 as follows:

Namely, in Fig. 15, a third antiferromagnetic layer 60 is provided on the seed layer 20, and the lower pinned magnetic layer 64 is provided on the third antiferromagnetic layer 60. The pinned magnetic layer 64 has a synthetic ferrimagnetic structure comprising the ~~tree~~three layers including a first magnetic layer 61, a second magnetic layer 63 facing the first magnetic layer 61 in the thickness direction, and a nonmagnetic intermediate layer 62 interposed between both magnetic layers 61 and 63.

Please amend the paragraph beginning on page 102, line 26 and ending on page 103, line 16 as follows:

In the next step shown in Fig. 30, an upper antiferromagnetic layer 30f thicker than the nonmagnetic metal layer 30e and having the same composition as that of the antiferromagnetic layer is deposited on the nonmagnetic metal layer 30e exposed by removing the nonmagnetic layer 80 and having the same composition as that of the antiferromagnetic layer. The first antiferromagnetic layer 30 comprises the nonmagnetic metal layer 30e and the upper antiferromagnetic layer 30f which are integrally formed. In depositing the upper antiferromagnetic layer 30f, the thickness of the upper antiferromagnetic layer 30f is controlled so that the total thickness of the first antiferromagnetic layer 30 is in the range of 80 Å to 300 Å. The nonmagnetic layer 80 may partially remains at the interface 30g between the nonmagnetic metal layer 30e and the upper antiferromagnetic layer 30f as long as the nonmagnetic metal layer 30e and the upper antiferromagnetic layer 30f are antiferromagnetically coupled with each other to function as one antiferromagnetic layer.

Please amend the paragraph on page 113, lines 13-20 as follows:

In the step shown in Fig. 41, a mask layer 93 having a predetermined space 93a in the track width direction is formed on the protective layer 49, and the protective layer 49 exposed in the space 93a of the mask layer 93 is removed by RIE to expose the stopper layer 53. Then, the stopper layer 53 and the second antiferromagnetic layer 23 are removed by ion milling. In this ion milling, the mask layer 93 is also removed.

Please amend the paragraph beginning on page 125, line 18 and ending on page 126, line 4 as follows:

The magnetic detecting element was used for examining the relation between a synthetic magnetic moment (Nest Mst) per unit and ease (sensitivity) of magnetization rotation of the central portion of the pinned magnetic layer with a magnetic field in the track width direction, the synthetic magnetic moment (~~Next~~Nest Mst) per unit area being obtained by subtracting the magnetic moment per unit area of the first magnetic layer from the magnetic moment per unit area of the second magnetic layer. Also, the relation between a thickness difference and ease (sensitivity) of magnetization rotation of the central portion of the pinned magnetic layer with a magnetic field in the track width direction was examined, the thickness difference being obtained by subtracting the thickness of the first magnetic layer from the thickness of the second magnetic layer.